

Community Forestry for Poverty Alleviation in China with Reference to Huoshan County, Anhui Province

Jiaqi Xu and Yongjun Zhao
Centre for Environment, Development and Poverty Alleviation
7 Piyuan East Road, Hengshan Zhen
Huoshan County
Anhui Province, 237200, China

Jungbo Suh
School of Economics and
School of Natural and Rural Systems Management
The University of Queensland, Qld 4072, Australia

Increasing attention has been paid to the question of whether and how community forestry links with poverty reduction in the mountainous regions in developing countries. Household-based community forestry was first implemented in Yunnan and spread over other parts of China in the 1980s. In this forestry management system, rural households are the main actors. Household forestry is a form of small-scale community forestry and suits the rural areas of China, where social overhead capital and skilled human resources are lacking. Community forestry has played a remarkable role in guiding and facilitating rural poverty alleviation in Huoshan County, Anhui Province. This paper describes how the community forestry project in Huoshan County has helped the farmers improve their livelihoods through the creation of a forestry model involving science and technology demonstration households and independent farmers' organisations. The sustainable poverty alleviation model developed in Huoshan has proved to be effective in poverty alleviation and environmental protection, featuring the participatory forestry components of the project, namely household forestry, science and technology demonstration households, and independent farmers' organisations. With technological and financial aid from government, the local farmers were able and willing to establish this small-scale forestry management system, planting fast-growing multiple-use tree species with substantial economic benefits.

Keywords: sustainable livelihoods, household forestry, farmers' organisations, science and technology demonstration households, self-help

INTRODUCTION

China is a developing country with a vast land area of 9.6 M km², of which 128.5 M ha is forested land (Shi *et al.* 1997). Nowadays, forested areas in China are under enormous pressure as areas of arable land available for food production are being extended. The rural population in China accounts for almost three quarters of the national population. Poverty alleviation is the one of most difficult challenges to overcome for the rural mountainous regions, which lack transportation facilities and have low labour quality and poor health and sanitation facilities. The Chinese government has introduced various programs to reduce poverty in the remote rural regions, although this is proving a difficult task.

It has recently been a prominent research theme whether and how community forestry links with poverty alleviation in the mountainous regions in China and other developing countries in Asia. A number of relevant empirical studies have been reported, e.g. Liu *et al.* 2000, Rozelle 2000, FAO and DFID 2001, Zachernuk and Yong 2001, Xu and Yu 2002, Xu and Zachernuk 2003, Gilmour *et al.* 2004 and Li and Zhao 2004.

Those forestry development projects undertaken to alleviate poverty in China have typically been financed by banks or international development agencies. These include the United Nations Development Program (UNDP), the Food and Agriculture Organisation of the United Nations (FAO), and individual donor countries. For example, Forestry Development in Poor Areas (FDPA) was approved in 1998, its main objective being to develop forest resources in poor areas of central and western China on a sustainable and participatory basis to support poverty reduction. It was the first World Bank supported forestry project in China to specify the use of participatory techniques from the appraisal phase onward (Rozelle *et al.* 2000). The China-Netherlands Poverty Alleviation Project in Huoshan County, Anhui Province, commenced in 1998 and has sought to achieve poverty reduction through the farmers' systematic participation.

This paper examines the community forestry model implemented in Huoshan County, Anhui Province of China, and attempts to highlight how it has contributed to sustainable rural livelihoods. The paper first briefly reviews the history of institutional changes in relation to forest management systems since 1950. The definitions and concepts of community forestry in China are then reviewed. The paper next illustrates the principles and features of the Chinese-Netherlands Poverty Alleviation Project in Huoshan County, Anhui Province. A detailed discussion about the participatory sustainable poverty alleviation model is presented, and two community forestry cases under this project are reported.

TRANSFORMATION OF MANAGEMENT INSTITUTIONS OF NON-STATE FORESTS IN CHINA SINCE 1950

Since the foundation of the People's Republic of China in 1949, there have been a series of changes in tenure arrangements and management institutions for forestry. All forest land became state or community property by the early 1960s. With the start of economic system reforms in 1978, the forestry sector in China underwent a dramatic transformation in land-use institutions (Liu 2001). This began with the

devolution of forest tenures in rural areas, but led to creation of state-owned forest enterprises by introducing stumpage fees and liberalised forest product prices. In the 1990s, as China gradually transited into the market economy, the nation's natural forests continued to be denuded despite nationwide government campaigns on sustainable development (Wang *et al.* 2004).

By the year 2000, China's forest areas were divided approximately equally between State forests, collective forests and household forests – the latter being mainly barren areas allocated to farmer households for afforestation and reforestation (Colchester 2002). The *de jure* ownership of collective forests by local communities has been increasingly reported and officially recognised (Veer 2004). The institutional arrangements for non-state forests in China during the last five decades are summarised in Table 1.

Table 1. Transformation of ownership and management of non-state forests in China since 1950

Period	Feature
1950-1955	Private ownership of forest was single, dominant form of ownership except in border and ethnic areas. Integration of use rights to land and land ownership. Integration of tree ownership and land ownership.
1956-1980	Collective ownership was single, dominant form of ownership. Integration of use rights to land and land ownership Informal split in tree ownership and land ownership; <i>de facto</i> split in early 1960s.
1980-present	Collective ownership was dominant, but private trees and forests emerged. Separation of use rights to land and land ownership. Split of tree ownership and land ownership. Many forms of community forest programs were implemented: household-based, collective cooperation among households, and between community and external institution.

Source: Adapted from Liu (2001, p. 242).

DIVERSE PRACTICES OF COMMUNITY FORESTRY IN CHINA

Community forestry is an umbrella term embracing 'most of the ways in which forestry and the goods and services of forestry directly affect the lives of rural people' (FAO 1978, p. 1). In this context, Hood *et al.* (1998) pointed out that community forestry should be understood as a process rather than a program. There are a series of diverse community forestry programs and activities in the world,

varying according to the government strategies underlying their design. Despite the diversity of community forestry programs in reality, it is widely agreed that three elements constitute the concept of community forestry, namely community participation, community economic development, and ecologically sustainable forestry (Brendler and Carey 1998). Most importantly in this concept, the community should have the right to make their own decisions about their forests. That is, they should participate in the planning, establishing, managing and harvesting of forest crops, and so receive a major proportion of the socio-economic and ecological benefits from the forest.

Community forestry has a long history worldwide. China has a centuries-old history of rural forestry and has practiced a wide range of village forestry models (Cao 1998). Nevertheless, community forestry is a recent policy initiative, and is still in its formative stage in the nation (Gilmour *et al.* 2004). The concept of community forestry was introduced into China from outside (Colchester 2002), and it is notable that there was no Chinese term for 'community forestry' before the concept was imported (Li 2003). Community forestry is perceived in contemporary China as a social organisation mode and a way of forest resource management, involving extensive participation by villagers in forestry production and management activities, with an aim of promoting rural economic development and sustainable rural society (Li 2003). This perception is conceptually not far from the definition presented by FAO (cited in Harrison and Suh, this issue).

In the literature,¹ 'community forestry' in China is often understood as collective forestry (e.g. Li 2003, Anders 2004), family forest farms or household forestry or doorstep forestry e.g. Bruce *et al.* 1995, Mayers and Vermeulen 2002) or joint-stock forest farms (e.g. Rechlin *et al.* 2002). Indeed, these various forestry models have been implemented in rural areas across China.

Collective forestry, a form of forestry run by local government, is the legacy of agricultural collectivisation in the 1960s and 1970s. On the other hand, household forestry and joint-stock forest farms evolved from collective forestry in the transition period of economic reform, driven by market economy principles. None of these systems correspond exactly with what community forestry originally referred to in other parts of the world. Collective forestry has similarities to social forestry in India. On the other hand, household forestry and joint-stock forest farms have greater similarity with community forestry.

Collective forestry is characterised by the ownership and management of forests by village collectives (Liu 2001). Collective forest lands in China account for 61.4% of the total forestland (Li 2003). It is generally admitted that collective forestry has failed to achieve its targets due to lack of a sense of real security of tenure, an overly top-down approach and the logging ban implemented in 1998. Colchester (2002) pointed out that without any incentive, farmer collectives and households have little interest to invest their labour, initiative and capital in woodlot plantations or in natural forest management.

A 'family forest farm' is a farm where individual households obtain a contract on a piece of barren mountain or forested land from a village collective, and manage the trees and land based on a signed contract for a long term (Li and Zhao 2004). This

¹ Anders (2004) compiled a 44-page synopsis of articles on the issues related to Chinese community forestry.

household-based community forestry was first implemented in Yunnan and spread over other parts of China in the 1980s. In this forestry management system, rural households are the main actors. Household forestry is a form of small-scale forestry that suits rural areas of China, where infrastructure and skilled human resources are lacking. Desirable features of household forestry are that it allows long-term rotation forestry production, and it encourages local people to protect forests against outside encroachment. It is compatible with Chinese traditional cultivating styles and is likely to be accepted by peasants. However, due to the lack of knowledge of most households about the market economy, technical extension and training by the local government is necessary. In addition, householder forestry is dependent on subsidies from local government (Shenqi and Harrison 2000).

In China, joint-stock forest farms arose amidst economic reforms in the 1990s and have developed rapidly in recent years, converting forest lands, labour and capital into an economic commodity in the form of shares. Shares and dividends are allocated among the villagers once a year or when dividends are available (Shenqi and Harrison 2000). In this forest management system, there is no physical redistribution of land and forests to households. Two examples of this first kind of shareholding system are Qingchong Forest Farm of Jinzhai County, Anhui Province, and Dicha Village Forest Farm of Jinping County, Guizhou Province (Liu 2001).

BACKGROUND OF THE CHINA-NETHERLANDS POVERTY ALLEVIATION PROJECT IN HUOSHAN COUNTY, ANHUI PROVINCE

Huoshan County is situated in west of Anhui Province (Figure 1). Over two-thirds of the county is covered with mountains. The coverage of forest land and cropping land is 69% and 10% respectively. Despite the fact that Huoshan has rich natural resources, it is still a designated poor county. Therefore, how to use the resources, including forests, in a sustainable way and at the same time lift the poor out of poverty has always been a major concern of the local government and the farmers.

With the aid of the Netherlands Government which approved approximately US\$10 M as a grant to Huoshan,² the China-Netherlands Poverty Alleviation Project (CNPAP) was formed to explore various ways to alleviate poverty in the area. CNPAP activities began in the second half of 1998 and the project continued until 2003 (Zachernuk and Yong 2001). As its offspring, the Centre for Environment, Development and Poverty Alleviation (CEDPA) was formed, as a grass-root non-profit organisation continuously developing and refining participatory approaches to poverty alleviation and at the same time disseminating the successful experiences gained in Huoshan to other parts of the country. As community forestry was the most successful sub-project of the CNPAP,³ CEDPA's major task was to further improve its sustainability and share the experiences with others.

² The exchange rate is approximately US\$1.00 = RMB8.30.

³ For the purpose of this project review, the term 'community forestry' refers to 'household forestry' hereafter.

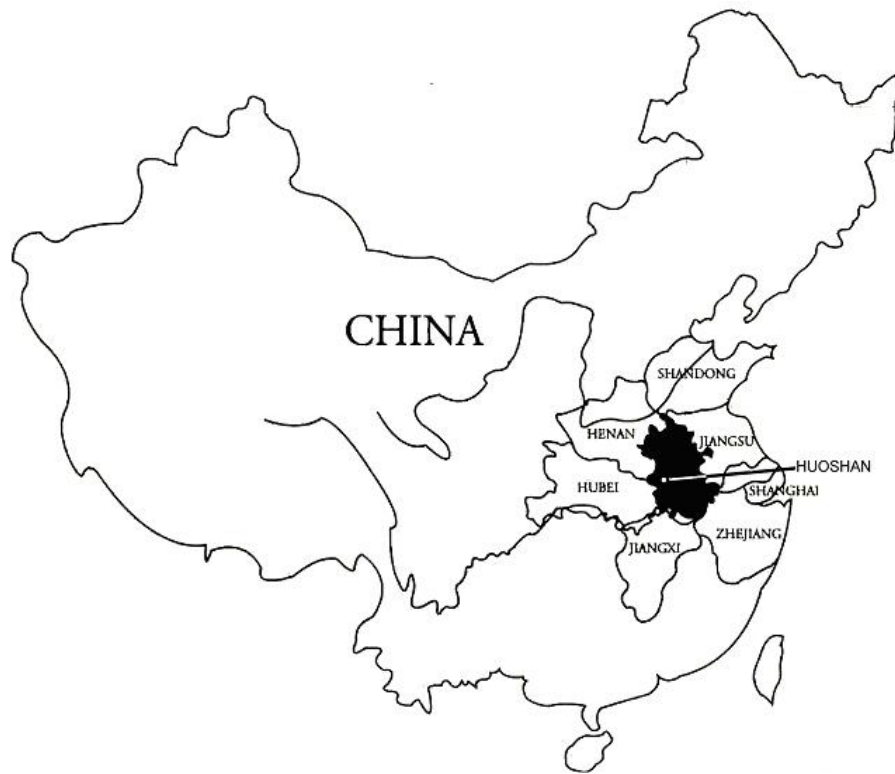


Figure 1. Location of Huoshan County, Anhui Province, China

Under the CNPAP, national and international experts in forestry were consulted with the aim of developing innovative and participatory approaches to sustainable community forestry. This was because a 'top-down' style of conventional forestry had previously been found ineffective in sustainable rural development in Huoshan.

The basic rationale of the project was to seek, develop and implement a systematic approach to resolving the problems of rural poverty and resource degradation in such a manner that solutions adopted lead to sustainable improvements. A project management office headed by Chinese and Dutch co-directors was established to ensure that the project was carried out in accordance with its design, and avoid the situation where project implementation simply becomes a process of fund allocation. Contemporary development concepts and management approaches were introduced by means of external specialists and consultancies. Participatory approaches were applied in the course of the project's implementation, and partnerships were formed between villagers, township and village cadres and technicians and the poor farmer households. Gender and environmental awareness were incorporated into all project activities. Self-selection of activities by villagers and voluntary participation were closely connected, and development concepts and approaches were constantly modified to meet the goals of poverty reduction, environment protection and income generation.

CNPAP applied a comprehensive framework which included components of agriculture, forestry, education, rural roads, irrigation, health, resource development

and environmental protection, while adopting international practice in concepts and approaches. Integration and complementarities between the various sectors were encouraged within the project. As a core component of the project, agricultural and forestry activities started from understanding the meaning of farmers' participation and took activities and farmers into consideration in an integrated way. The farmers were guided to participate in project activities voluntarily with particular attention to improving their skills and capacity.

PRINCIPLES OF THE CHINA-NETHERLANDS POVERTY ALLEVIATION PROJECT

Community forestry is one of the most important components of CNPAP. Farmers are empowered with the 'seven rights', namely the right to knowledge; to speak out, to decide, to implement, to manage, to use and to own. Therefore, farmers are encouraged to take an active part in project design, implementation, monitoring and evaluation (Xu and Zachernuk 2003, Zhao and Xu 2004).

People-centred Principle of Participation

The direct beneficiaries of the community forestry project are the poor households in the remote project area. The people there have the opportunity to participate voluntarily in some of the project activities. They are encouraged to voluntarily participate in choosing those activities that they can undertake and to take training in relevant forestry technical skills. This proves to be effective in helping them develop their own mountainous resources from which they can benefit in the shortest period of time. At the same time, their technical and managerial skills are improved, which ensures that the sustainable development targets can be reached.

Environmental Protection Awareness

The dialectic relationship between environment and development has received careful attention in the field of community forestry. In community forestry, poverty alleviation activities cannot be encouraged if they are undertaken at the cost of environmental degradation. Under CNPAP, the conventional approach to community forestry focusing on large-scale planting of trees is replaced by household-based forestry, where each household manages to return the croplands on the hillsides around their homes to forest, while at the same time, soil and water conservation measures are undertaken. The development of the household-based forestry economy has improved the well-being of farmers and prevented further environmental degradation.

The Awareness of Gender Equality

Attention needs to be given in community forestry to the issues related to gender equality by encouraging women to participate in project activities and making efforts to create employment opportunities for them. In project design and implementation, women's participation is essential. In so doing, women are able to expand their activities beyond family responsibilities and develop themselves in a wider society. Thus, building gender awareness is a way of improving the ability of women to participate in social activities and changing their degraded social status.

PARTICIPATORY FORESTRY COMPONENTS OF THE CHINA-NETHERLANDS POVERTY ALLEVIATION PROJECT

The key to community forestry is the process in which groups with differing economic, social, political and cultural interests can participate. However, this form of participation cannot be brought about simply by applying a framework pre-designed by external experts or helpers. It can only be meaningful if it is done through two-way communication between the local people as project partners and the external experts and helpers. Community development experts are invited to conduct participatory rural appraisals in order to reach a common understanding with regard to the project. This understanding reflects the interests of various stakeholders and is the baseline for project design and implementation. The adoption of this participatory approach has formulated poverty alleviation tools, namely 'household forestry', 'demonstration households' and 'independent farmers' organisations'.

Household Forestry

As indicated in Figure 2, the foundation of the sustainable development poverty-alleviation model places particular emphasis on full coverage of the village in project planning, project design based on households, and subsidies allocated directly to poor households. At the same time, in the process of project implementation, particular emphasis is placed on the impact of the project on the environment. Thus, water and soil conservation measures are a key feature of community forestry (Xu 2002). With the support of county government policy and the technical cooperation of the line agencies, the project has undertaken various activities. Specifically, the features of the household forestry are as follows:

- (1) With regard to project participation, emphasis is given to the principle of voluntary participation of farmers, government agencies and technical bureaux. A bottom-up approach is adopted in project design, selection, implementation, monitoring and evaluation.
- (2) The project design favours small-scale and relatively scattered activities.
- (3) The selection of tree species to be planted is based on those which farmers prefer and which can offer high economic returns within a short period of time, so as to ensure both financial and ecological sustainability of the forestry activities.
- (4) Trees are planted on the hillsides around farmers' homes and barren mountain land suitable for forests, and cultivated slopes are returned to forest, with appropriate soil and water conservation measures taken.
- (5) When trees are planted, measures are taken to forbid clearing by burning or clearfelling.
- (6) To avoid soil erosion, timing of activities is restricted in terms of season of the year. For example, unless activities must be done in summer (such as tilling the soil in bamboo stands), anything that may affect the soil is arranged after the rainy season.

(7) A system of science and technology demonstration households, 160 in total, has been established in the project areas. These households play an essential role of teaching and disseminating forestry skills and knowledge to other households. As a result, the project has an impact across a much larger number of people, bringing more benefits to the local people as they learn from each other's technical skills and experience.

(8) There is a high level of transparency in financial management, in which the project carries out inspections, and provides subsidies as rewards. For example, demonstration households are rewarded after their performance is examined. On average, each one can have RMB300 as subsidies granted by the project, which has a total budget of RMB10,000. The project publicises the awards granted and disburses the funds on a timely basis so as to encourage farmers to carry out soil and water conservation measures effectively.

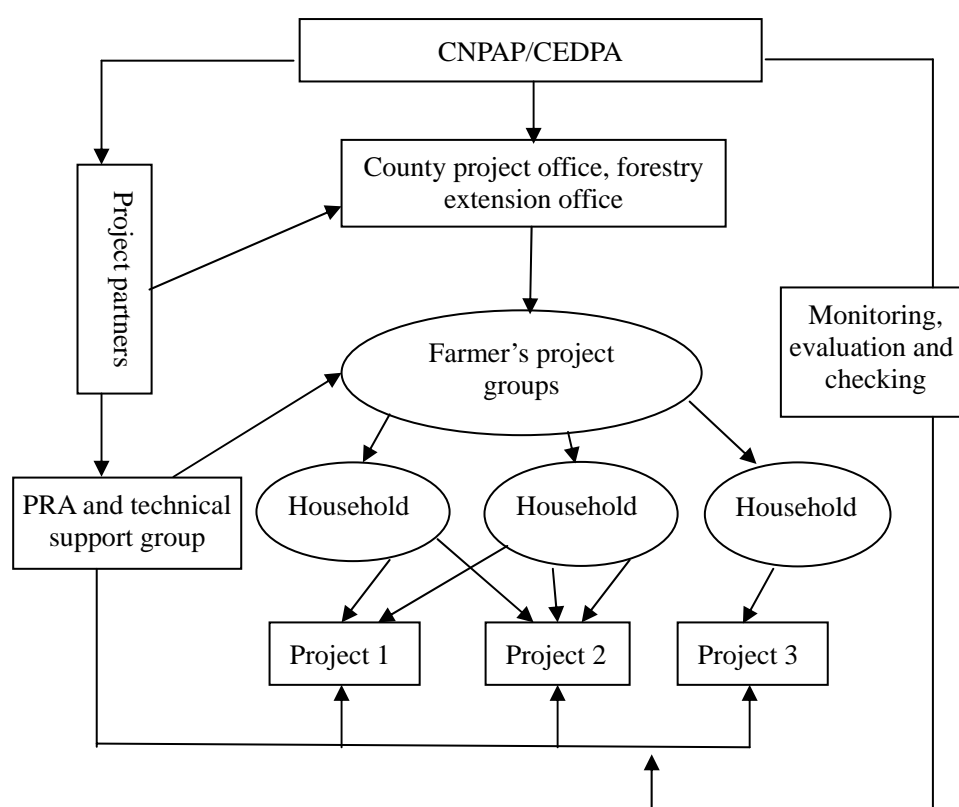


Figure 2. Participation process in household forestry

Science and Technology Demonstration Households

The principle of tripartite participation has always been a priority for the community forestry project in Huoshan, which emphasises the participation of farmers as well as government offices and technical bureaux. Technical staff from county and township forestry workstations with skills in forestry play an important role in disseminating technical information, participating in project design and planning, and providing the technical training and instruction on which the system of science and technology demonstration households is based (Xu 2002). It is shown that increasing the technical know-how of farmers is a prerequisite for them to improve their technical skills and their capacity for project participation. Moreover, it has greatly increased farmers' incomes and created an incentive for their continuing participation in forestry activities.

Due to the interdisciplinary nature and multi-party involvement of community forestry activities, it is not possible to provide a single type of training for all those involved. As Figure 3 indicates, the project designed a three-tiered training program based on the needs of different parties involved, namely training of trainers, training of science and technology demonstration households (including training of indigenous specialists) and training of farmers.

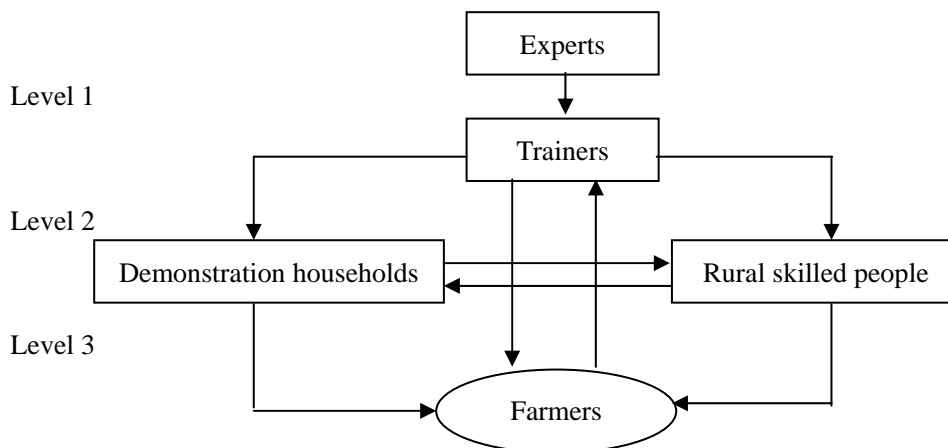


Figure 3. Three level training network for farmers

To increase the scientific content of the household forestry programme, a large number of forestry technicians with relatively high theoretical background in forestry, years of work experience, passion, perseverance and selflessness are needed. For this reason, forestry experts from the Chinese Academy of Forestry, Anhui Agricultural University and Anhui Forestry Department, are employed to teach selected technical staff participatory methods and intensive technical skills and knowledge. These people have become trainers after their own training, and established themselves as technical training service groups to train demonstration households and rural skilled people. At the same time, technical journals such as the *Practical Technology in Forestry* and *Forestry and Society* are distributed to the demonstration households to expand their horizons. Through these measures, each

participant in the training has learned various technical forestry skills, which has been beneficial to their self-development.

Household forestry is based on a people-centred principle with particular focus on people's participation and project sustainability. High-quality training is provided for households, members of which have in turn become qualified technical leaders. They play an important role in teaching and helping others grasp the necessary skills and knowledge in forestry and in so doing ensure the sustainability of the project.

The approach to the system of demonstration household in forestry developed in Huoshan is in some respects unique. In other projects it is common to select demonstration households at the outset of project activities and through them to disseminate experience and knowledge on a broader scale. This approach involves complicated procedures and high operational cost. In contrast, in the community forestry project in Huoshan, the demonstration households are identified in the process of implementing the household forestry project. Subsequently, a network of demonstration service is built around the identified households, and agreements are signed between the project and the household, which stipulate the type of service to be provided and the number of households to be served by the demonstration household. These demonstration households have to take the lead in developing their own household forestry appropriately, which will set an example for others. At the same time, they have to teach other households specific skills. So far, the 160 demonstration households have spread their knowledge into 1700 households as learners. This has proved to be effective in serving both project implementation and forestry demonstration purposes, with the active participation of other households. It is also a way of reducing operational cost and enhancing the productivity of the farmers. In addition, these agreements stipulate that monitoring will be conducted annually by the project with regard to the services provided by each demonstration household.

Farmers are the main participants in community forestry. However, due to social and economic constraints, poor rural households often lack the necessary skills for participation and their mindsets are still dominated by some traditional management methods in forestry, which is an impediment to the dissemination of new technology. Therefore, the project organises experts in community forestry to design practical technical materials which are easy to understand for the farmers as part of the capacity-building programme. For example, technical training materials including *Chestnut Cultivation Techniques and Chestnut Garden Management*, *Bamboo Cultivation and Harvesting Techniques* and *Scientific Use and Management of Commonly-Used Fertilisers* are provided to the farmers.

Independent Farmers' Organisations

It was found that household forestry was still only small-scale agriculture with limited economic output. Thus, not only was it urgent to consolidate and improve forestry practices, but also to support the establishment of independent farmers' organisations along with the science and technology demonstration households. The project aims to develop human resources and enhance the self-education and self-help abilities of farmers through this channel. The establishment of independent farmers' organisations in the form of production and marketing support groups, and establishment of community development funds, represents a higher stage of development of the family responsibility system and is an important guarantee for

the sustainability of agriculture and forestry in the project area. It represents both a learning process and consciousness raising for farmers (Xu 2003).

The independent farmers' organisations, such as Daling Bamboo Farmer Association, Daling Women Shoes Association and Liangganchong Chestnut Association, carry out a number of activities, including:

- organising farmers to participate in the management of the organisation (enhancing their self-management ability);
- providing technical training (improving farmer's vocational skills);
- creating employment opportunities for surplus labour who become members of relevant organisations;
- providing opportunities for women to participate in community activities;
- helping farmers to access market information, increasing their bargaining power and thus the prices of forestry products which were difficult to sell, and stabilising the price and market for non-timber products; and
- providing technical support.

Two distinct types of the independent farmers' organisations have been developed – an operational management type and a community development fund type. After the household forestry project was implemented, to make up for a lack of necessary skills and knowledge in operational management, some households voluntarily established special interest groups to help each other. These later joined together to become independent organisations such as the Chestnut Growers Association.

In order to protect the natural secondary growth forests and reduce the burden on the natural resources as a result of over-cutting of trees, steps have been taken to implant environmental awareness and promote sustainable utilisation of resources by farmers. Based on the voluntary participation of farmers, and with a modest amount of financial support from the project in the form of a community development fund, community development organisations such as the forestry farmers associations have been established.

OUTCOMES OF THE PROJECT IN COMMUNITY FORESTRY IN HUOSHAN COUNTY

The community forestry project in Huoshan has benefited 15,245 households, which account for over 80% of the poor population in the county. It completed the aforestation with bamboo, chestnut, fir trees and other economic trees, at the same time improving the production of the low-yielding chestnut, bamboo and tung oil trees over a total area of 3,811 ha. From 1998 to 2002, the total economic income reached RMB 7.87 M, with an average cumulative increased income of RMB 510 per household over the five years.

Through the project, some forest farmers associations aimed at the protection and comprehensive utilisation of the secondary growth forest were established. A total of

369 households joined the associations, in which engineering techniques were used with regard to mountain closure and planting trees on 616.6 ha. As a result, the secondary growth forest has been protected and wisely utilised, with important consequences for reducing soil erosion. In addition, farmers' awareness of environmental protection has been raised.

A total of 230 training sessions on forestry technology were organised, attended by more than 8500 people. More than 35,000 copies of training materials were distributed during the training. As a result, farmers have learned practical knowledge and grasped various new forestry technical skills, which are necessary for them to improve their forestry management abilities.

Through the system of demonstration households, 160 households have taken the lead in disseminating technical information, practical techniques and knowledge in forestry to 1,707 households. The average income from forestry per household was RMB 408 before they became the demonstration households, but increased to RMB 1142 afterwards. The average income from forestry activities of the households influenced by the demonstration households increased by RMB 259 (113%). Therefore, this project is widely accepted by the local people because of its sustainable potential. Two case situations demonstrate the success of the participatory forest programme.

Case 1

In Liangganchong Village of the Shangtushi Township, 107 chestnut-growing households voluntarily established their own growers associations with the aim of solving problems in chestnut production and marketing. After these associations were established, 10 households which have chestnut production and management experience were chosen as demonstration households and given relevant skill training. These households became leaders in facilitating and helping others learn and grasp the necessary skills for chestnut production and management. As a result of the upgrading of low-yield forest, 15,000 kg of chestnuts were harvested in the village for 2000, being an increase of 11,000 kg. The income of the 107 households increased by RMB 66,000, or RMB 616 per household. Moreover, among the 10 chestnut demonstration households, the largest amount of chestnuts harvested reached 1500kg per household, representing an income of RMB 9,000. Based on those achievements, a chestnut production service centre was established with a view to providing the farmers living in and around the village with technical information about chestnut production and integrated pest management.

Case 2

A project was established in Songlin Village of Taiyang Township, in which 119 households established a forest farmers association to ensure reasonable utilisation of forest resources, correcting the poor practice in forest exploitation and restoring the fragile ecosystems. After the association was established, an area of 188 ha of natural secondary growth forests was protected. At the same time, farmers were encouraged to use the branches and bushes in the forests to grow edible fungi. In 2000, 140,000 bags of mushrooms were grown and sold, which resulted in an income increase of RMB 100,000 with an average net income of RMB 300 per household. In 2001, the total production reached RMB 150,000 with an average net income of RMB 427 per household.

CONCLUDING REMARKS

Community forestry is a conceptual transformation from traditional rural forestry to a new form with a strong focus on community participation. Modern community forestry in China is based on forestry as a resource industry in which local people fully participate. It plays a key role in rural community development, helping the poor increase their economic income, reducing their burdens, protecting forest resources, improving the quality of the environment, providing employment opportunities for the people, and therefore facilitating harmony between man and nature. As a result, poor farmers who participate in it are both enthusiastic and involve themselves actively.

The sustainable poverty alleviation model operated in Huoshan County is featured by 'household forestry, science and technology demonstration households and independent farmers' organisations' and has proved to be effective in poverty alleviation and environmental protection. The independent farmers' organisation is an innovation in modern rural economic cooperation, and is thriving. It builds the capacity of poor farmers in self-development, self-help and self-management, which is necessary for them to escape from the vicious cycle of poverty. Also, it is a way of training those farmers who have skills to take the lead in fighting poverty. Moreover, through protection and sustainable utilisation of natural resources, it provides village surplus labour and especially women with employment opportunities, which is important for social stability in rural areas. It is through this effort that farmers have the opportunity to increase their incomes and their ability to pay reasonable agricultural taxes. Thus it is a way of assuaging the conflict between the farmers and the government.

With a unique feature of self-help of farmers, the independent farmers' organisations play a role in uniting people to achieve their common objectives in a way which cannot be done by a single household or a community or even the local government. In addition, these organisations assist farmers in terms of helping them learn and grasp updated technical skills and knowledge, reducing their operation and management cost and increasing forestry production and incomes. It is also through the cooperation of farmers in forestry activities that community forestry has a true meaning.

It is notable that the key to success of the community forestry project in Huoshan has much to do with participation of farmers, who are empowered to take part in all the forestry-related activities. However, like other bilateral projects, questions can be asked as to how project continuance can be assured. During the course of the project, to a certain extent, some farmers' participation is money-driven as they need to secure donor's financial support. Thus, this sense of participation is not active in real terms. When the project is over, they may lose the passion they used to have, which may affect the sustainability of the project. This situation also applies to the behaviour of local government, which may not play an active part without seeing some financial benefits from the project. In addition, a continued role by the local government after implementation of the project is essential for the final success of the project. In the community forestry sector, how the sustainable model developed by the project can be adopted by the local government and integrated into their own forestry programmes remains a question. It is hoped that CEDPA can play a role in ensuring the sustainability of the project through various activities, one of which is

to work with the local government and help them understand related issues better.

There is no doubt that in collaboration with various stakeholders, the community forestry project in Huoshan has set a new starting point different from traditional modes of forestry development. The practical approach to sustainable community forestry developed in Huoshan has the potential to affect forestry governance-related policies throughout the country.

REFERENCES

- Anders, W. (2004), *Collective Forestry in China: Pertinent Literature and Related Issues – A Bibliography*, <http://www.cfnetwork.com.cn/reference.pdf>, accessed 11 November 2004.
- Brendler, T. and Carey, H. (1998), 'Community forestry, defined', *Journal of forestry*, 96(3): 21-23.
- Bruce, J.W., Rudrappa, S. and Zongmin, L. (1995), 'Experimenting with approaches to common property forestry in China', *Unasylva*, 180: 44-49.
- Cao, G. (1998), 'Indicators from community forestry cases in Yunnan, China', in M. Victor, C. Lang, and J. Bornemeier (eds), *Community Forestry at a Crossroads: Reflections and Future Directions in the Development of Community Forestry*, proceedings of an International Seminar organised by RECOFTC, Bangkok, Thailand, 17 – 19 July 1997, pp. 194-200.
- Colchester, M. (2002), 'Community forestry in Yunnan, China: the challenge for networks', paper prepared for the CIFOR project *Learning from International Community Forestry Networks*, Center for International Forestry Research, Bogor, http://www.cifor.cgiar.org/publications/pdf_files/CF/Yunnan_CF.pdf, accessed 21 October 2004.
- FAO (Food and Agriculture Organisation of the United Nations), (1978), *Forestry for Local Community Development*, Forestry Paper No. 7, FAO Forestry Department, Rome.
- FAO (Food and Agriculture Organisation of the United Nations) and DFID (Department for International Development), (2001), *How Forests Can Reduce Poverty*, FAO, Rome.
- Gilmour, D., Malla, Y. and Nurse, M. (2004), 'Linkage between community forestry and poverty', Regional Community Forestry Training Centre for Asia and the Pacific, Bangkok, <http://recoftc.org/documents/Working%20paper/Community%20forestry%20and%20poverty.pdf>, accessed 14 November 2004.
- Harrison, S.R. and Suh, J. (2004), 'Progress and Prospects of Community Forestry in Developing and Developed Countries', *Small-scale Forest Economics, Management and Policy*, 3(3): 287-302.
- Hood, S., Rasaily, L. and Timila, G.S. (1998), 'Community forestry: a program or a process? The interface between users and government', in M. Victor, C. Lang, and J. Bornemeier (eds), *Community Forestry at a Crossroads: Reflections and Future Directions in the Development of Community Forestry*, proceedings of an International Seminar organised by RECOFTC, Bangkok, Thailand, 17 – 19 July 1997, pp. 165-174.
- Li, W. (2003), Community forestry in China: current status and perspectives, paper presented at XII World Forestry Congress, 21-28 September 2003, Québec, <http://www.fao.org/DOCREP/ARTICLE/WFC/XII/0004-C1.HTM>, accessed 14 November 2004.
- Li, W. and Zhao, Y. (2004), 'The role of community forestry in poverty alleviation efforts — increasing farmers' income through the development of home-garden forestry and family forest farms', proceedings from IUFRO Group 3.08.00 Symposium, *Human Dimensions of Family, Farm and Community Forestry*, Washington State University, Pullman, 29 March – 1 April 2004, pp. 263-265.
- Liu, C., Ma, T., Xu, Q. and Zhu, Q. (2000), *The Institutional Arrangements and Case Study for Community Forestry and Poverty Alleviation*, in Chinese with English summary, China Agriculture Publishing House, Beijing.
- Liu, D. (2001), 'Tenure and management of non-state forests in China since 1950: a historical review', *Environmental History*, 6(2): 239-263.

- Mayers, J. and Vermeulen, S. (2002), *Company-community Forestry Partnerships: From Raw Deals to Mutual Gains?*, Instruments for Sustainable Private Sector Forestry Series, International Institute for Environment and Development, London.
- Rechlin, M.A., Hammett, A.L., Burch, W.R. and Song, Y. (2002), 'Sharing the wealth: a comparative study of the distribution of benefits from community forestry management in southern China and Nepal', *Journal of Sustainable Forestry*, 15 (2): 1-23.
- Rozelle, S., Huang, J., Husain, S.A. and Zazueta, A. (2000), *China: From Afforestation to Poverty Alleviation and Natural Forest Management*, The World Bank, Washington, D.C.
- Shenqi, G. and Harrison, S.R. (2000), 'Development of forestry including small-scale forestry in China', in S.R. Harrison, J.L. Herbohn and K.F. Herbohn (eds), *Sustainable Small-scale Forestry: Socio-Economic Analysis and Policy*, Edward Elgar, Cheltenham, pp. 190-203.
- Shi, K., Li, Z., Lin, F. and Zheng, R. (1997), 'Asia-Pacific forestry sector outlook study: China's country report on forestry', Working Paper No. APFSOS/WP/14, FAO Forestry Policy and Planning Division, Bangkok.
- Veer, C. (2004), 'Community based forest management in Asia: quo vadis?', *Bulletin of the Global Caucus on Community Based Forest Management*, Fall 2004 issue, p. 12.
- Wang, S., van Kooten, G.C. and Wilson, B. (2004), 'The mosaic of reform: forest policy in post-1978 China', *Forest Policy and Economics*, 6(1): 71-83.
- Xu, J. (2002), 'Exploring the scientific contents of household forestry and ways of establishing demonstration system', *Forestry and Society Newsletter*, 2002 (4): 6-9.
- Xu, J. (2003), 'The relationship between development of farmer self-help organizations and sustainable development', *Forestry and Society Newsletter*, 2003 (1): 1-7.
- Xu, J. and Yu, H. (2002), 'Farmers' participation and selection in systematic agriculture/forestry poverty alleviation projects', *Contour*, 14 (2): 2-6, [http://www.asocon.org/ CONTOUR -XIV-2-02.zip](http://www.asocon.org/CONTOUR-XIV-2-02.zip), accessed 15 November 2004.
- Xu, J. and Zachernuk, T. (2003), 'Exploring the use of a sustainable poverty alleviation model in community forestry for poverty alleviation and natural resources protection in a mountainous region of China', paper presented at Asia Pacific Regional Workshop on *Forests for Poverty Reduction, Can Community Forestry Make Money?*, Beijing, 1-2 September 2003, <http://topics.developmentgateway.org/poverty/rc/filedownload.do~itemId=355898>, accessed 11 November 2004.
- Zachernuk, T. and Yong, H. (2001), 'Case study of a multi-sectoral poverty alleviation intervention: Chinese Netherlands poverty alleviation project, Huoshan County, Anhui Province', paper presented at International Conference on *The Chinese Economy Achieving Growth with Equity*, Beijing, 4-6 July 2001. http://www.econs.ecel.uwa.edu.au/economics/Links/papers/aces_zachernuk_tz.pdf, accessed 11 November 2004.
- Zhao, Y. and Xu, J. (2004), 'A practical approach to sustainable community forestry in Anhui Province, China', proceedings from IUFRO Group 3.08.00 Symposium *Human Dimensions of Family, Farm and Community Forestry*, Washington State University, Pullman, 29 March – 1 April 2004, pp. 267-270.